



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/055,989 | 01/28/2002 | Matthias Rebellius | Q67989 | 2124 |

7590 05/21/2004

SUGHRUE MION, PLLC
2100 Pennsylvania Avenue, NW
Washington, DC 20037-3213

EXAMINER

AUVE, GLENN ALLEN

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2111

DATE MAILED: 05/21/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/055,989

Applicant(s)

REBELLIOUS ET AL.

Examiner

Glenn A. Auve

Art Unit

2111

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 4 and 12 are objected to because of the following informalities: they are in an improper Markush format. See MPEP § 2173.05(b) which states in part, "It is improper to use the term 'comprising' instead of 'consisting of.'" Ex parte Dotter, 12 USPQ 382 (Bd. App. 1931). Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the USB Specification in view of "USB Eases Data Acquisition", *Test & Measurement World*, May 1998 by Bassak (cited by applicant).

As per claim 1, the USB spec shows an industrial control unit operable to control one or more USB devices (page 23, fig. 4-4 PC); and industrial control panel operable to communicate

with the industrial control unit as a USB device (monitor); and a communication link connecting the industrial control unit to the industrial control panel and operable to facilitate communication therebetween (USB link connecting the host/hub to the monitor/hub), wherein the industrial control panel comprises a plurality of functional units each with a respective USB controller and an integrated USB hub to interconnect the USB controllers to their functional units (fig.4-4, wherein the other functional units are connected via USB interfaces to the USB hub in the monitor unit and the control unit and control panel are connected via the communication link).

The USB spec does not specifically show that the USB devices are in an industrial plant.

However, Bassak shows that it is desirable to use USB devices in a data acquisition/industrial plant environment because "[t]he USB embodies a rich set of convenient features, in particular the capacity for hot-swap, plug-and-play operation; a 30-m range; and an expansion capacity of 127 devices" (second paragraph of the article). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a USB system as shown by the USB spec in an industrial plant as shown by Bassak for the reasons stated above.

As for claim 2, the argument for claim 1 applies. The USB spec also shows that the industrial control unit comprises a USB interface and the communication link is a USB line connected to the USB interface (fig.4-4). The USB spec shows all of the elements recited in claim 2.

As for claim 3, the argument for claim 1 applies. The USB spec also shows that the functional units are input and output components (fig. 4-4). The USB spec shows all of the elements recited in claim 3.

As for claim 4, the argument for claim 3 applies. The USB spec also shows that the functional units are selected from a group comprising a keyboard, touch screen input, status

display, a key display, a touch pad, a roller ball and a piezo pad (fig. 4-4, which shows at least a keyboard). The USB spec shows all of the elements recited in claim 4.

As for claim 5, the argument for claim 1 applies. The USB spec also shows that the functional units comprise a communication interface operable to connect additional control devices and output devices (fig. 4-4, the USB hub/functions). The USB spec shows all of the elements recited in claim 5.

As for claim 6, the argument for claim 1 applies. The Bassak also shows a line length of the communication link is greater than 5 meters (second paragraph of the article as noted above). The USB spec shows all of the elements recited in claim 6.

As for claim 7, the argument for claim 1 applies. The USB spec also shows that the USB hub is connected to the control unit via a two-wire connection (inherent in USB). The USB spec shows all of the elements recited in claim 7.

As for claim 8, the argument for claim 1 applies. The USB spec also shows an additional USB hub (KBD/hub) assigned to the control panel and being connected to the functional units of the control panel by a first USB line, and connected to the functional units of at least one additional control panel via a second USB line and connected to the industrial control unit via a third USB line (fig.4-4). The USB spec shows all of the elements recited in claim 8.

As for claim 9, the argument for claim 8 applies. The USB spec also shows that the additional USB hub is physically integrated into the control panel (fig. 4-4). The USB spec shows all of the elements recited in claim 9.

As per claim 10, the USB spec shows a plurality of functional units each associated with a respective USB controller; and an integrated USB hub operable to interconnect the USB controllers of the functional units wherein the industrial control panel is connected to a secondary device via a communication link operably connected to the hub (fig.4-4). The USB

spec does not specifically show that the USB devices are in an industrial plant. However, Bassak shows that it is desirable to use USB devices in a data acquisition/industrial plant environment because "[t]he USB embodies a rich set of convenient features, in particular the capacity for hot-swap, plug-and-play operation; a 30-m range; and an expansion capacity of 127 devices" (second paragraph of the article). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a USB system as shown by the USB spec in an industrial plant as shown by Bassak for the reasons stated above.

As for claim 11, the argument for claim 10 applies. The USB spec also shows that one or more of the functional units are input and output components (fig. 4-4). The USB spec shows all of the elements recited in claim 11.

As for claim 12, the argument for claim 11 applies. The USB spec also shows that the functional units are selected from a group comprising a keyboard, touch screen input, status display, a key display, a touch pad, a roller ball and a piezo pad (fig. 4-4 shows at least a keyboard). The USB spec shows all of the elements recited in claim 12.

As for claim 13, the argument for claim 10 applies. The USB spec also shows that the functional units comprise a communication interface operable to connect additional control devices and output devices (fig. 4-4). The USB spec shows all of the elements recited in claim 13.

As per claim 14, the USB spec shows providing an industrial control unit operable to control one or more USB devices (PC host/hub); providing an industrial control panel as one of the USB devices and comprising a plurality of function units each having a controller (monitor hub); and operably connecting the control unit to each of the functional units via a USB hub integrated in the industrial control panel and having a panel connection with a corresponding connection of each functional unit and a control unit connection for sending or receiving control

signals to the control unit (fig.4-4, wherein the hub in the monitor is connected to the host control unit via a USB line and the hub is coupled to the functional units via panel connections). The USB spec does not specifically show that the USB devices are in an industrial plant. However, Bassak shows that it is desirable to use USB devices in a data acquisition/industrial plant environment because "[t]he USB embodies a rich set of convenient features, in particular the capacity for hot-swap, plug-and-play operation; a 30-m range; and an expansion capacity of 127 devices" (second paragraph of the article). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a USB system as shown by the USB spec in an industrial plant as shown by Bassak for the reasons stated above.

As for claim 15, the argument for claim 13 applies. The USB spec also shows providing a front USB interface device; providing an external device; operably connecting the external device to the USB hub through the front USB interface; and sending control or data signals to the external device from the control unit via the hub and the front interface (fig.4-4). The USB spec shows all of the steps recited in claim 15.

Response to Arguments

5. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

The Examiner does note, however, that the evidence provided to establish priority to the German PCT application is sufficient.

With respect to applicant's arguments related to claims 4 and 11 on page 10 of the amendment it appears as though applicant means to refer to claims 4 and 12. In any event, applicant argues that the USB spec does not show any of a touch screen input unit, a status display, a key display, a touchpad, a roller ball, and a piezo pad. However, the claims are

recited as a Markus style group. As such in order to reject the claim the examiner need only find one member of the group. (See MPEP § 2173.05(h)). As noted above claims 4 and 12 are also objected to because they are in an improper Markush format.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The two white papers by Nematron Corporation show that the use of PC's in industrial control applications is known.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn A. Auve whose telephone number is (703) 305-9638. The examiner can normally be reached on M-Th 8:00 AM-5:30 PM, every other Friday off.

Application Number: 10/055,989

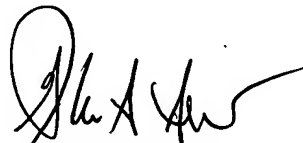
8

Art Unit: 2111

Final Office Action

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (703) 305-4815. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

A handwritten signature in black ink, appearing to read 'Glenn A. Auve', with a stylized flourish at the end.

Glenn A. Auve
Primary Examiner
Art Unit 2111

gaa
May 18, 2004